



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,775	05/25/2001	Pi-Yuan Shin	FIP-827FP13	5774
20808	7590	12/23/2005	EXAMINER	
BROWN & MICHAELS, PC 400 M & T BANK BUILDING 118 NORTH TIOGA ST ITHACA, NY 14850			NGUYEN, VAN KIM T	
			ART UNIT	PAPER NUMBER
			2151	

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,775

Applicant(s)

SHIN, PI-YUAN

Examiner

Van Kim T. Nguyen

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. This Office Action is responsive to communications filed on November 25, 2005. Claims 1-12 are pending in the case.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 25, 2005 has been entered.

Response to Arguments

2. Applicant's arguments, see page 8, filed November 25, 2005, with respect to the drawings have been fully considered and are persuasive. The objection of the drawings, therefore, has been withdrawn.

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-4, 6-7, 9- 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, in view of Wang (US 6,401,159).

Art Unit: 2151

Regarding claims 1, 4, 7, and 10, as shown in Figures 1-2, the admitted prior art discloses a transmission direction switching device (200) for a half-duplex communication apparatus, the half-duplex communication apparatus including a UART (130) and a half-duplex communication interface driver (140) connected to the UART via a sending line (170, 190) and to the transmission direction switching device (200) via a direction control line (210); the transmission direction switching device comprising:

a data transmission detector (203) coupled to the sending line for detecting any data to be sent and sending that data such data exists; and

a direction-switching rule executor (204) for receiving the data sent out by the data transmission detector, and sending a direction switching signal via the direction control line to the half-duplex communication interface driver to set a transmission direction of the half-duplex communication interface driver to a sending direction (170) or receiving direction (190) based on whether when the data receiver from the data transmission detector is a signal 0 (low) or 1 (high). (See page 2: line 26 – page 7: line 5).

However, the admitted prior art does not call for the half-duplex communication interface driver having signal subtraction function.

As shown in Figures 1-10, especially Figure 6A, Wang teaches a half-duplex communication apparatus having signal subtraction function (e.g. signal converter between RS-232 and two-wire RS-485 comprising a logical control circuit 15 which controls the signals in receiving/transmission signal control wire DIR5, based on the data in T2; col. 5: line 60 – col. 7: line 2).

As it is highly desirable to be able to send and receive clear, error-free signals, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Wang's communication device having subtraction function (e.g., logical control function) in a communication system, motivated by the desire to provide a quality communication system in which signals received are the same as signals sent.

Regarding claims 2, 5, 8, and 11, the admitted prior art also discloses the half-duplex communication interface driver is in compliance with RS-485 standard (page 2: lines 15-26).

As shown in Figures 1-10, especially Figure 6A, Wang teaches a half-duplex communication apparatus having signal subtraction function (e.g. signal converter between RS-232 and two-wire RS-485 comprising a logical control circuit 15 which controls the signals in receiving/transmission signal control wire DIR5, based on the data in T2; col. 5: line 60 – col. 7: line 2).

As it is highly desirable to be able to send and receive clear, error-free signals, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Wang's communication device having subtraction function (e.g., logical control function) in a communication system, motivated by the desire to provide a quality communication system in which signals received are the same as signals sent.

Regarding claims 3, 6, 9, and 12, the admitted prior art also discloses the transmission direction switching device is a programmable logic device (202: Figure 2).

Art Unit: 2151

As shown in Figures 1-10, especially Figure 6A, Wang teaches a half-duplex communication apparatus having signal subtraction function (e.g. signal converter between RS-232 and two-wire RS-485 comprising a logical control circuit 15 which controls the signals in receiving/transmission signal control wire DIR5, based on the data in T2; col. 5: line 60 – col. 7: line 2).

As it is highly desirable to be able to send and receive clear, error-free signals, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Wang's communication device having subtraction function (e.g., logical control function) in a communication system, motivated by the desire to provide a quality communication system in which signals received are the same as signals sent.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Van Kim T. Nguyen whose telephone number is 571-272-3073. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung, can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Art Unit: 2151

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Van Kim T. Nguyen
Examiner
Art Unit 2151

vkn

